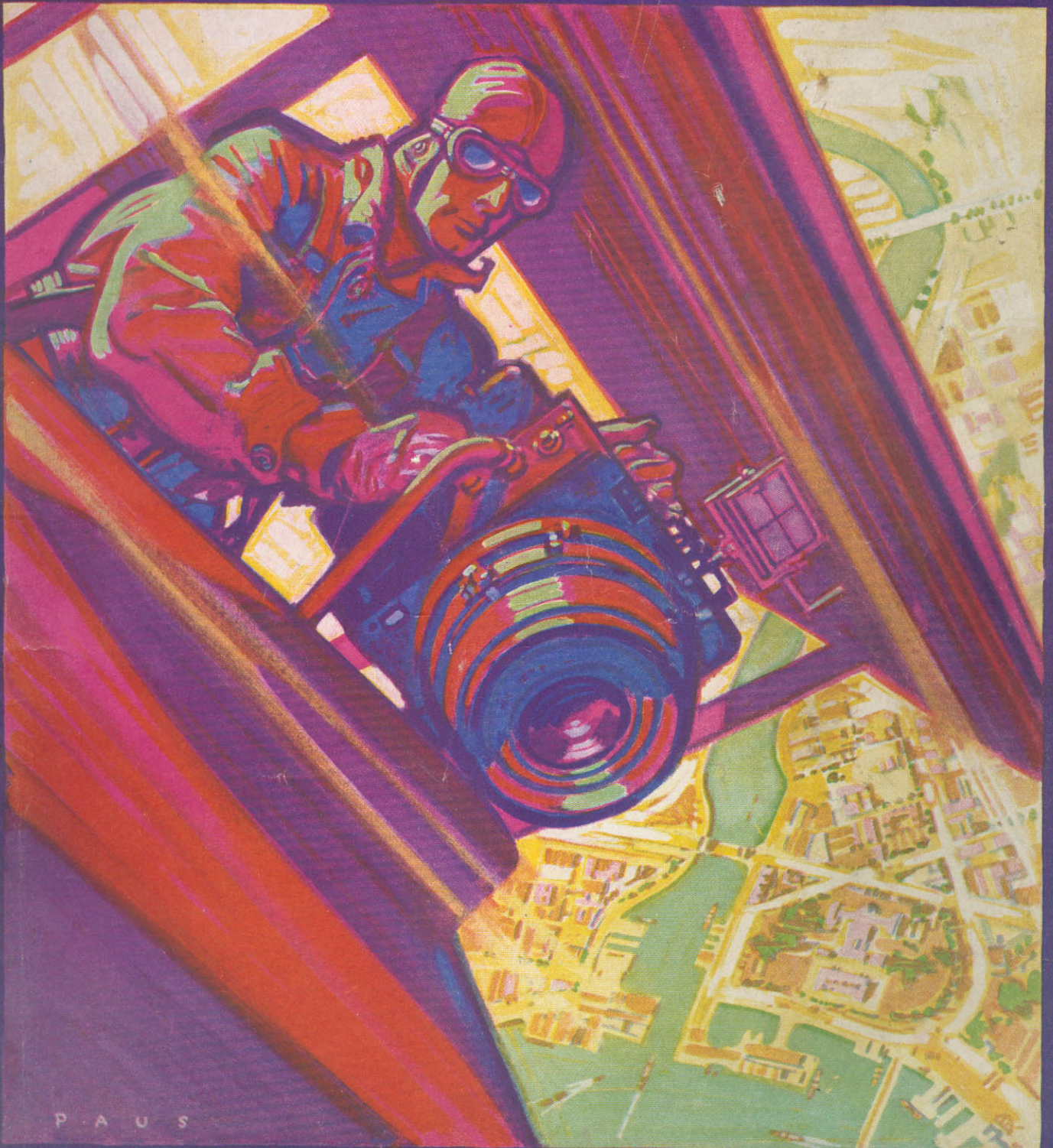


# Popular Science

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P. A. U. S.

*In This Issue:*

## The Amazing Story of the Two Lindberghs



# Unmasking Garage "Gyps"

*How to Save the \$20.66 You Waste Yearly on Useless Auto Repairs and Poor Workmanship*

By  
MYRON  
M. STEARNS



The owner kicked like a steer at a \$7.15 bill when the job took only ten minutes

**A** SHORT time ago the following letter came to the editor of POPULAR SCIENCE MONTHLY:

"Dear Sir:

"What is the matter with our garage men?"

"Last week I took my car to a garage, and left word what I thought the trouble might be. When I went to get it they told me the trouble had evidently been what I had intimated, and that they had fixed it. The bill amounted to only \$3.45, but on looking it over I found they had replaced a part that had been put in new only a short time before, and which I knew was working perfectly. The car ran no better than it had before. The real trouble had not been touched.

"Do these things happen because the garage men are trying to get out of their business more than there is in it, or is it a case of being plain dumb?"

"Sincerely yours,

"Carl Granquist,  
Rockford, Ill."

The editor turned that letter over to me. "Three dollars and forty-five cents," he said, "is no great matter. But nearly everybody has had that same experience in one way or another. Let's learn the truth about it. What are the chances, when a man takes his car to a garage for repairs, that he'll get an honest, efficient job? See if you can't get the facts."

I found out that there are approximately 50,000 garages in the United States today doing repair work, and that something like \$1,000,000,000 a year is spent in them on such work. But the startling thing is this: Inquiries among garage men, repair shops, automobile owners and mechanics led me to believe something like half the total is wasted!

*Five hundred million dollars a year wasted on unnecessary motor repairs and inefficient work, or worse!*

At that I found nothing to indicate that garage men or repair shop men as a whole are naturally any less honest or well meaning than men in other occupations. The average garage owner feels that he is running a perfectly honest business, competently and efficiently. I found car owners as a rule slow to criticize, and usually quite loyal to their particular repair men—just as people are to a doctor—but I got, bit by bit, the real facts behind this huge waste. Finally I went to one mechanic I've known for a couple of years, a veteran and an expert. We sat outside his garage, twenty miles outside of New York City on the Boston Post Road, went over the information I had obtained, and outlined the main causes of the tremendous waste in motor repairing.

**T**HE table we worked out, on the basis of what the losses of \$500,000,000 a year cost the average owner of one of the 23,000,000 cars in the United States, subdivided the losses under five heads:

- Bad diagnosis, \$4.04.
- Bad management, \$8.08.
- Bad judgment, \$3.26.
- Bad workmanship, \$3.26.
- Bad faith, \$2.02.

And here is what Fred Gartner, as I shall call him, told me with specific illustrations of each of the different kinds of waste, gleaned from his long experience in auto repair shops:

"One of the biggest losses comes from not being able to locate the trouble. Any mechanic who is a good diagnostician, who can tell by the sound just what the trouble probably is, is worth big

wages. They all think they can, but if we say one mechanic in five is a good trouble shooter, we're being liberal.

"Once I was working in a garage outside Glendora, in Southern California, when a man walked into the shop.

"Have you got a good carburetor man here?" he asked. "I've got a car stuck down the road here, and I think the trouble is in the carburetor."

"Jim, here," says the boss, "is our carburetor man. He invented carburetors." Like a lot of garage proprietors, the boss was a great kidder but didn't know an awful lot about machines himself. Jim was hardly more than an apprentice. He goes out with the man, and after an hour comes back. He hasn't been able to get the car started, so we tow it in.

**B**Y THIS time Jim has decided the trouble is with the ignition. He scrapes all the spark plugs and goes over the wiring. No result, so Jim decides it's the timing and gets after the distributor. There goes another hour. Finally, when they can't get the motor to show a sign of life, Jim opens up the gasoline tank and smells the gas.

"There's your trouble," he says. "Smell that! That stuff they've sold you wouldn't fire in a tractor!"

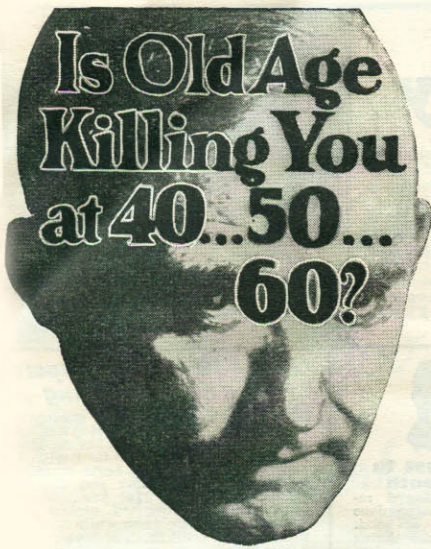
"They drain out about seven gallons of the stuff and put in new gas. 'Now you're O. K.," says Jim.

"The owner gets in and steps on the starter. Nothing doing.

"Now it's almost quitting time and they call me over to see if I can help out. The owner thinks there's dirt stuck in the needle valve of the carburetor.

"It's possible you're right," I said, "although that's a mighty unusual thing to have happen. (Continued on page 152)





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Without obligation, kindly send me a free copy of "Why Many Men Are Old at 40."

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## The Movie Maker

(Continued from page 151)

hoarse croak. Well, he would wave at her—hail and maybe farewell!

He lifted his hand, but the gesture ended in a wild clutch at the skylight frame as he slipped. Judy screamed. But at that moment hope came toward them over the roof. A ladder was pushed out of a small shed and several firemen, with Jerry a conspicuous figure in white pajamas and dark bathrobe, rushed it toward Don.

With three men steadying it on each side, the ladder was shoved out over the gap. Don heard it graze the metal of the gutter. Sprawled slantwise as he was, he could not quite see its position at the edge of the roof and he dared not lean forward. But when he felt the ladder push against his feet, he shifted them and squirmed to one side.

At last the welcome ends rose near his grasp and he cautiously gripped them. With one hand he tugged the ladder into place, catching the heavy steel hooks at the ends of the runners over the lower sash of the skylight. He pulled at it with his free hand and it held firm. Then he glanced across to the roof opposite.

THE men shouted to him and flung themselves down flat against the scant three feet of ladder that remained on their roof. Forgetting for a moment the hell beneath him and with only a ghastly picture of himself spitted like a fowl on those terrible iron spikes three stories below, Don paused again to test the firmness of the ladder.

But a sharply terrible scream from Judy, a sudden stinging of his left hand, made him release his hold on the roof and swing out into space on the rungs of the ladder as a bright spurt of flame shot up through the skylight.

Just when success was in sight, fate has struck Don another blow. Can he swing from the fire of misfortune to a new foothold in his fight to the top? More thrilling adventures in next month's installment, on the news stands April 2.

## Unmasking Garage "Gyps"

(Continued from page 74)

How come you didn't have Jim take a look at it before?

"He knew that couldn't be the trouble," he answered.

"We cleaned out the needle valve, and the car was fixed.

"The charge was \$7.15. The owner kicked like a steer, but the boss made him pay up. All but ten minutes of the time, as well as the gasoline that had been thrown out, was pure waste.

"In this case the owner guessed right. But usually the owner doesn't guess right, and a whole lot of garage men do what he says even if they know it's wrong."

We moved on to the next big leak—the biggest of all.

"To understand garage management," Gartner explained, "let's take this place right here where I'm working.

"WITH land, buildings, machinery, electric current, clerk hire and so on, the boss has an overhead of more than \$5,000 a year. Now, his only return comes from repair bills and parts and the profit is mainly in the labor charge. The boss here charges \$1.50 an hour for labor. That isn't what he pays. Nobody gets as much as a dollar and a half.

(Continued on page 153)



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## Unmasking Garage "Gyps"

(Continued from page 152)

"Suppose a man brings in a car to be repaired. We find that new parts will come to \$20 and the job will take perhaps twelve hours' work. We add twenty percent to our labor estimate, just to play safe, and say we can do the job for 'around forty-five dollars.'

"Then I put a good man on the job. He works steadily for a couple of hours. Then he's called to another job to hold a wrench for a minute on a troublesome bolt. After that he goes to look at a bad wreck that's just been towed in, and smokes a couple of cigarettes. But all the time the car owner is being charged \$1.50 an hour.

"The longer he takes and the more time he wastes, the more money the garage man makes."

Now we came to the next leak—bad judgment.

"LAST winter," Gartner told me, "an old Cadillac was run in here. It was six years old. The owner had the front end and the motor overhauled. It came to almost \$500—about as much as the car would bring in the secondhand market.

"Then, less than a month later, he got stuck in a snow bank and tore out the whole rear end. Rather than spend any more money on it, he turned it in and got an allowance of \$300. His total loss was approximately \$700.

"The mistake was one of judgment. The car never should have had that much money put into the motor and front end unless the rear end was put in good shape too, and that would have been too expensive.

"Then," said Gartner, "there is bad workmanship. I remember a job in a garage where I was working at Adrian, Michigan, in 1922. It was a rebuilding job on a light car—a Scripps-Booth. Instead of working the new bearings down until they were running smoothly and safely, the job was turned over to the owner while the bearings, and rebored cylinders too, were still too tight.

"He took the car out and it 'froze' suddenly on him before he'd gone ten miles.

"You know what 'freezing' means! The whole motor gets too hot, the metal expands, and the tight bearings and cylinders suddenly stick and jam. In this case the 'freeze' came so suddenly on the front cylinders that the crankshaft broke, smashing the crank case and everything. Three hundred dollars gone at a lick!"

FINALLY we got down to the ugliest count of all—bad faith. If you prefer, you can call it straight "graft."

"I don't believe," Gartner told me reflectively, "there's nearly as much downright dishonesty in the repair game as a lot of people think; but even at that there's plenty. I worked for a couple of weeks in Los Angeles at a garage where they had a regular stunt of giving the carburetor adjustment a twist when nobody was looking. Then the boss would deliver a song and dance about the motor being in a bad way.

"The trouble would start as soon as the car left the garage. Frequently they'd get a chance to work on the car, if the owner didn't become suspicious, and run up quite a bill.

"My advice to car owners," Gartner ended, "is to learn three things about their cars:

"How to test the spark.

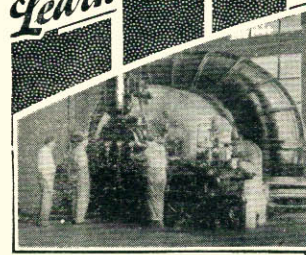
"How to adjust the carburetor.

"How to clean and test the timer.

"Those are the three most likely causes of trouble, and the three most easily remedied. Millions of dollars are spent in repair shops every year because owners don't know those three simple things."

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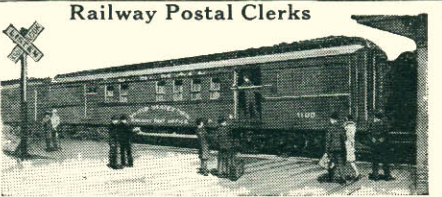
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